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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/560,522	04/28/2000	Jun Akiyama	49794(904)	3377
21874	7590	10/23/2003	EXAMINER	
EDWARDS & ANGELL, LLP			VUONG, BACH Q	
P.O. BOX 9169			ART UNIT	
BOSTON, MA 02209			PAPER NUMBER	

2653

DATE MAILED: 10/23/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/560,522

Applicant(s)

AKIYAMA ET AL.

Examiner

Bach Q Vuong

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☒ Claim(s) 18 and 19 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

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This communication is responsive to an amendment filed on 07/31/2003

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-17 are rejected under 35 U.S.C. 102(e) as being anticipated by Maeda et al. (US 6,069,870).

Maeda et al., according to Figs. 20-29, shows a tracking system comprising all features of the claimed invention.

Regarding claim 1, see Figs. 25-29 which show an optical disk including data segments, for recording data, provided in each sector in a recording track (see Fig. 25), wherein at least some of the data segments (see referral numbers 251, 252, 253, 254 and 255 in Figs. 25) each include: a clock mark field (see VFO 252) for recording a clock mark from which a clock signal is obtained; and a synchronization field (see Sync 253) for recording a synchronization pattern with which displacement of the data is corrected.

Regarding claim 2, see Fig. 25 which shows the optical disk wherein at least some of the data segments including a synchronization field are provided at regular intervals in each sector.

Regarding claim 3, see Fig. 25 which shows the optical disk wherein the synchronization field has a fixed position in each of the data segments.

Regarding claim 4, see Fig. 25 and 27 which show the optical disk wherein one of the data segments, located at a head of each sector, records a header pattern for matching the clock signal and the data in phase.

Regarding claim 5, see Fig. 25 which show the optical disk wherein the data segments each include a pre-write field and a post-write field for offsetting displacement of the data that occurs when the data is recorded.

Regarding claim 6, see Figs. 25-27 which show an optical disk with a recording track (see Fig. 26) constituted by sectors arranged in a concentric or spiral form, in which data is rewritable sector by sector, wherein each of the sectors (see Fig. 25) is divided into segments, each of the segments includes a data field (data field) for recording data and a clock field (see VFO) having a different light reflectance from that of the data field, and the data field includes fields for recording a synchronization pattern (see Sync, Resync) with which displacement of the data is corrected.

Regarding claim 7, see Fig. 25-27 which show the optical disk wherein each of the sectors includes at least one address segment (see address in Fig. 25) where address information is located and data segments for recording data, the address segment is located at a head of the sector, a first data segment immediately subsequent to the address segment includes a field for recording a phase introducing header pattern for use in data reproduction, and the fields for recording the synchronization pattern are included at regular intervals in a second data segment immediately subsequent to the first data segment.

Regarding claim 8, see Figs. 25-29 which show an optical reproduction device for reproducing data recorded in data segments (see Fig. 25 and 26) provided in each sector in a

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recording track of an optical disk, the optical reproduction device comprising: a clock generation circuit (see circuits 1296, 1297) for generating a clock signal from a clock mark recorded in clock mark field provided in the data segments; and a data rearrangement circuit (see circuit 1298 in Fig. 29) for detecting a synchronization pattern recorded in a synchronization field provided in at least some of the data segments to correct displacement of the data according to the detected synchronization pattern.

Regarding claim 9, see Fig. 25-29 which show the optical reproduction device wherein the data rearrangement circuit (circuit 1298) detects the synchronization pattern (see sync, Resync. in Fig. 25) in each sector of the optical disk at regular intervals.

Regarding claim 10, see Fig. 25-29 which shows the optical reproduction device wherein the data rearrangement circuit includes a window circuit for detecting the synchronization pattern only in proximity to the synchronization field.

Regarding claim 11 see Figs. 25-29 which show the optical reproduction device further comprising a phase adjusting circuit for matching the data and the clock signal in phase using a header pattern recorded in one of the data segments located at a head of each sector of the optical disk.

Regarding claim 12, see Figs. 25-29 which show an optical reproduction device for reproducing data from an optical disk with a recording track (see Fig. 25 and 26) constituted by sectors arranged in a concentric or spiral form, in which data is rewritable sector by sector, wherein each of the sectors (see Figs. 25 and 27) includes data field (see referral numbers 251-254) for recording data and a clock field (see VFO) having a different light reflectance from that of the data fields, and the data fields (see data field 254) record synchronization patterns,

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the optical reproduction device comprising: clock generation means (see circuits 1296 and 1297) for detecting a laser reflected at the clock field as a clock field signal and generating a clock for use in data reproduction according to the clock field signal; synchronization pattern detection means for detecting the synchronization pattern recorded in the data fields; reproduction means (see circuit 1298) for reproducing sector by sector using the clock generated by the clock generation means and correcting displacement of data in the sector according to a result of the detection of the synchronization pattern.

Regarding claim 13, see Fig. 25-27 which shows an optical reproduction device wherein the synchronization pattern detection means includes window means for detecting the synchronization pattern only in a predetermined part in the data fields.

Regarding claim 14, see Fig. 20 which show an optical recording device for recording data in data segments provided in each sector in a recording track of an optical disk, the optical recording device comprising: a clock generation circuit (see circuit 41, clock 400 in Fig. 20) for generating a clock signal for use in recording of the data; and a synchronization pattern addition circuit (see circuit 333) for adding a synchronization pattern for correcting displacement of the data to data recorded in at least some of the data segments.

Regarding claim 15, see Fig. 20 which show an optical recording device wherein the synchronization pattern addition circuit adds the synchronization pattern to the data recorded in the data segments provided at regular intervals in each sector of the optical disk.

Regarding claim 16, see Fig. 20 which shows an optical recording device wherein the synchronization pattern addition circuit adds the synchronization pattern so that the synchronization pattern is recorded at a fixed position in each data segment.

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Regarding claim 17, see Figs. 20-29 which shows an optical recording device for recording data on an optical disk with a recording track constituted by sectors arranged in a concentric or spiral form, in which data is rewritable sector by sector, wherein each of the sectors (see Fig. 25) is divided into segments, and each of the segment includes a data field for recording data and a clock field having a different light reflectance from that of the data field (see referral numbers 251-254), the optical recording device comprising: clock generation means (see circuit 41, clock 400 in Fig. 20) for detecting a laser reflected at the clock field as a clock field signal and generating a clock for use in data recording according to the clock field signal; and recording means (see circuit 333) for recording synchronization patterns, together with recording data, in each data field using the clock at a predetermined cycle.

Allowable Subject Matter

Claims 18 and 19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 18 and 19 are allowable over the prior art of record because all the cited references, considered as the closest prior art and viewed in combination or individually, fails to suggest or fairly teach an optical recording/reproducing apparatus including all features as particularly recited in each of claim 18 and 19.

Cited References

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The cited references relate to a data recording/reproduction method and apparatus for recording/reproducing data on an optical disk.


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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bach Q Vuong whose telephone number is (703) 305-7355. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Korzuch can be reached on (703) 305-6137. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

BV
October 19, 2003


THANH V. TRAN
PRIMARY EXAMINER